EXHIBIT 39
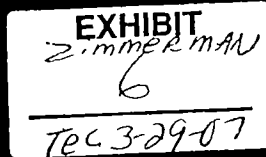
**To the Appendix of Exhibits to Plaintiff's Memorandum
in Opposition to Defendants' Motion for Summary Judgment**

EXHIBIT
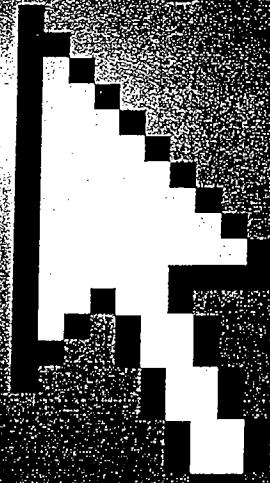Zimmerman
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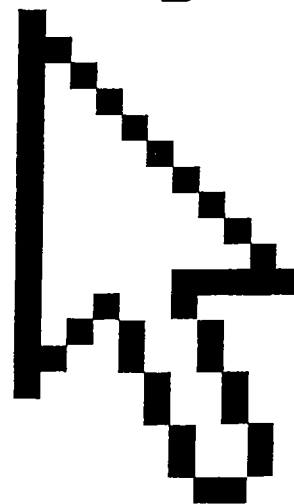- *Definitive coverage of hardware, software, the Internet, and more!*

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Introduction

The *Microsoft Computer Dictionary, Fifth Edition* is designed to be a comprehensive and authoritative source of definitions for computer-related terms and abbreviations. The dictionary includes terms drawn from a wide variety of topics relevant to computer users, including software, hardware, networking, data storage, graphics, games, information processing, the Internet and the World Wide Web, gaming, history, jargon and slang, organizations, programming, and standards.

Although this book covers nearly every aspect of computing, it does not include entries on most companies or on most makes and models of computers, nor does it contain entries on most application software products. The few exceptions to this rule of thumb are key companies and products that have a historical or universal importance within the computing industry.

This dictionary emphasizes terminology that the average computer user will encounter in documentation, online help, computer manuals, marketing and sales materials, the popular media, and the computer trade press. Because most computer users operate personal computers and desktop systems at home, work, or both, the majority of the entries in this dictionary cover the terminology used in describing and working with these systems. However, some specialized or highly technical language is included that pertains to areas of industry, academia, software and hardware development, and research. These terms have been included because they have a bearing on more common computer terminology or because they are of historical significance.

Changes in the Fifth Edition

The fifth edition of the *Microsoft Computer Dictionary* has been revised and expanded to include over 10,000 entries, reflecting the many advances in the computer field and including several areas that have come into prominence in the public eye, such as networking, Web authoring, and new technologies, such as .NET. The content from the Year 2000 appendix has been integrated into the body of the dictionary and a new appendix on emoticons and instant messaging symbols has been added.

Order of Presentation

Entries are alphabetized by letter. Spaces are ignored, as are characters such as hyphens and slashes; for example, *Baudot code* falls between *baud* and *baud rate*, and *machine-independent* falls between *machine identification* and *machine instruction*. Numbers and symbols are located at the beginning of the book and are listed in ascending ASCII order. If an entry begins with a letter or letters but contains a number, it is listed alphabetically, according to the initial letter(s), and then according to ASCII order. Thus, V20 precedes V.2x, and both precede VAB.

Entries

Entries are of two types: main entries, which contain full definitions, and synonymous cross-references, which contain *See* references to the appropriate main entries. Synonymous cross-references are generally secondary or less common ways of referring to a main entry. The definition at the main entry can be substituted as a definition for the synonymous cross-reference.

Format

Information in each main entry is presented in a consistent format: entry name in boldface, spelling variants (if any), part of speech, definition, illustration or table reference (if any), acronym (if any), alternative names (if any), and cross-references (if any).

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bits per pixel *n.* Also known as color depth or bit depth. The term refers to the number of bits (8, 16, 24, or 32) used to store and display the color data for a single pixel. The number of bits per pixel determines the range of color available to an image. *Acronym:* bpp.

bits per second *n. See* bps.

bit stream *n.* **1.** A series of binary digits representing a flow of information transferred through a given medium. **2.** In synchronous communications, a continuous flow of data in which characters in the stream are separated from one another by the receiving station rather than by markers, such as start and stop bits, inserted into the data.

bit stuffing *n.* The practice of inserting extra bits into a stream of transmitted data. Bit stuffing is used to ensure that a special sequence of bits appears only at desired locations. For example, in the HDLC, SDLC, and X.25 communications protocols, six 1 bits in a row can appear only at the beginning and end of a frame (block) of data, so bit stuffing is used to insert a 0 bit into the rest of the stream whenever five 1 bits appear in a row. The inserted 0 bits are removed by the receiving station to return the data to its original form. *See also* HDLC, SDLC, X.25.

bit transfer rate *n. See* transfer rate.

bit twiddler *n.* Slang for someone devoted to computers, particularly one who likes to program in assembly language. *See also* hacker.

BIX *n.* Acronym for BYTE Information Exchange. An online service originated by *BYTE* magazine, now owned and operated by Delphi Internet Services Corporation. BIX offers e-mail, software downloads, and conferences relating to hardware and software.

.biz *n.* One of seven new top-level domain names approved in 2000 by the Internet Corporation for Assigned Names and Numbers (ICANN), .biz is meant for use in business-related Web sites.

biz. news groups *n.* Usenet newsgroups that are part of the biz. hierarchy and have the prefix of biz. These newsgroups are devoted to discussions related to business. Unlike most other newsgroup hierarchies, biz. newsgroups permit users to post advertisement and other marketing material. *See also* newsgroup, traditional newsgroup hierarchy.

BizTalk Server *n.* An application developed by Microsoft Corporation to streamline business processes within a large company's internal network and between business partners over the Internet. BizTalk Server enables the integration of business applications written in different computer languages and running on various operating systems.

BlackBerry *n.* A wireless handheld device that allows mobile users to send and receive e-mail, as well as view appointment calendars and contact lists. The BlackBerry features a display screen and a built-in keyboard operated by pressing the keys with the thumbs. BlackBerry's ease of use and its ability to send and receive messages silently have made it a popular device for wireless text messaging in a business environment.

black box *n.* A unit of hardware or software whose internal structure is unknown but whose function is documented. The internal mechanics of the function do not matter to a designer who uses a black box to obtain that function. For example, a memory chip can be viewed as a black box. Many people use memory chips and design them into computers, but generally only memory chip designers need to understand their internal operation.

black box testing *n.* An approach to testing software in which the tester treats the software as a black box—that is, the testing focuses on the program's functionality rather than on its internal structure. Black box testing is thus user oriented, in that the primary concern is whether the program works, not how it is constructed. Black box testing is generally performed on software that is under development. *Compare* white box testing.

black hat *n.* A hacker who operates with malicious or criminal intent. A black hat will break into a system to alter or damage data or to commit theft. *Compare* white hat.

black hole *n.* A mysterious "place" on a computer network where messages, such as e-mail and news items, disappear without a trace. The usage is derived from stellar black holes, which have such strong gravitational fields that even light cannot escape them. The term is sometimes also used to refer to projects that consume vast amounts of time with no apparent product.

blackout *n.* A condition in which the electricity level drops to zero; a complete loss of power. A number of factors cause a blackout, including natural disasters, such as a storm or an earthquake, or a failure in the power company's

framework to build Java-based e-mail client applications. *See also* application programming interface, e-mail, J2EE.

Java Management Application Programming Interface *n.* A set of application programming interface specifications, proposed by Sun Microsystems, Inc., to enable the Java language to be used for network management. *Acronym:* JMAPI. *See also* application programming interface, Java.

JavaOS *n.* An operating system designed to run applications written in the Java programming language. JavaOS was created by JavaSoft, an operating company of Sun Microsystems, Inc., to run the Java Virtual Machine (JVM) directly on microprocessors, and thus eliminate the need for a resident operating system. JavaOS is small and designed for network computers, as well as devices ranging from game machines to pagers and cellular telephones. *See also* Java.

JavaScript *n.* A scripting language developed by Netscape Communications and Sun Microsystems that is loosely related to Java. JavaScript, however, is not a true object-oriented language, and it is limited in performance compared with Java because it is not compiled. Basic online applications and functions can be added to Web pages with JavaScript, but the number and complexity of available application programming interface functions are fewer than those available with Java. JavaScript code, which is included in a Web page along with the HTML code, is generally considered easier to write than Java, especially for novice programmers. A JavaScript-compliant Web browser, such as Netscape Navigator or Internet Explorer, is necessary to run JavaScript code. *See also* application programming interface, HTML, scripting language. *Compare* Java.

JavaServer Pages *n. See* JSP.

Java Speech Grammar Format *n.* A platform-independent grammar description format developed for use with speech recognition systems. Java Speech Grammar Format is used extensively with Voice XML and can be used with most speech recognition systems and related applications. *Acronym:* JSGF.

Java Virtual Machine *n.* The environment in which Java programs run. The Java Virtual Machine gives Java programs a software-based "computer" they can interact with. (Programs, even the most seemingly unchallenging ones designed for children or entertainment, must run within an environment from which they can use memory, display

information, gather input, and so on.) Because the Java Virtual Machine is not a real computer but exists in software, a Java program can run on any physical computing platform, such as a Windows 9x computer or a Macintosh, equipped with an interpreter—usually an Internet browser—that can carry out the program's instructions and a Java Virtual Machine that provides the "hardware" on which the program can run. *Acronym:* JVM.

JCL *n.* Acronym for Job Control Language. A command language used in IBM OS/360 mainframe systems. JCL is used to launch applications and specifies information on running time, program size, and the program files used for each application. *See also* command language.

JDBC *n.* A Java API designed to provide access to relational databases and other tabular material, such as spreadsheets and flat files. Using JDBC, a developer can create a cross-platform Java application that can connect with, and send SQL statements to, a number of different relational databases. Although it is commonly thought to stand for Java Database Connectivity, JDBC is the name of the technology; it is not an acronym.

JDK *n. See* Java Developer's Kit.

jDoc *n.* A cross-platform, interactive format for display, distribution, and interaction with live Web pages. jDoc documents are small in size and can be embedded in HTML documents to offer client-side interactivity. jDoc was created by EarthStones and is an extension to Sun's Java platform.

JetSend Protocol *n.* A platform-independent communications protocol developed by Hewlett-Packard to enable direct device-to-device communication. The JetSend protocol is designed to provide JetSend-enabled devices with the ability to exchange information and data without the need for device drivers or reliance on servers or user intervention. The protocol is intended for use with printers, scanners, fax machines, and other such information "appliances" and was developed to simplify and improve interoperability between and among a wide range of devices.

Jet SQL *n.* A query language. Jet SQL is a dialect used by the Microsoft Access application, specifically by the Microsoft Jet database engine, to extract, manipulate, and structure data that resides in a relational database management system (RDBMS). Jet SQL is based largely on the ANSI SQL-92 standard, with additional extensions.

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dedicated to that data, and it cannot be reprogrammed. *See also* EEPROM, EPROM, ROM (definition 2).

PROM blaster *n. See* PROM programmer.

PROM blower *n. See* PROM programmer.

promiscuous-mode transfer *n.* In network communications, a transfer of data in which a node accepts all packets regardless of their destination address.

PROM programmer *n.* A hardware device that records instructions or data on a PROM (programmable read-only memory) chip or an EPROM (erasable programmable read-only memory) chip. *Also called:* PROM blaster, PROM blower. *See also* EPROM, PROM.

prompt *n.* 1. In command-driven systems, one or more symbols that indicate where users are to enter commands. For instance, in MS-DOS, the prompt is generally a drive letter followed by a greater than symbol (C>). In UNIX, it is usually %. *See also* command-driven system, DOS, prompt. 2. Displayed text indicating that a computer program is waiting for input from the user.

propagated error *n.* An error used as input to another operation, thus producing another error.

propagation *n.* Travel of a signal, such as an Internet packet, from its source to one or more destinations. Propagation of messages over different paths with different lengths can cause messages to appear at a user's computer with varying delivery times. *See also* propagation delay.

propagation delay *n.* The time needed by a communications signal to travel between two points; in satellite links, a noticeable delay of between one-quarter second and one-half second, caused by the signal traveling through space.

propeller head *n.* Slang for a person who is obsessed with computers or other technology; a geek. The name refers to a child's beanie cap topped by a spinning propeller.

property *n.* In Windows 9x, a characteristic or parameter of an object or device. Properties of a file, for example, include type, size, and creation date and can be identified by accessing the file's property sheet. *See also* property sheet.

property sheet *n.* A type of dialog box in Windows 9x, accessed by choosing Properties in the File menu or by right-clicking on an object and selecting Properties, that lists the attributes or settings of an object such as a file, application, or hardware device. A property sheet presents the user with a tabbed, index-card-like selection of prop-

erty pages, each of which features standard dialog-style controls for customizing parameters.

proportional font *n.* A set of characters in a particular style and size in which a variable amount of horizontal space is allotted to each letter or number. In a proportional font, the letter *i*, for example, is allowed less space than the letter *m*. *Compare* monospace font.

proportional spacing *n.* A form of character spacing in which the horizontal space each character occupies is proportional to the width of the character. The letter *w*, for example, takes up more space than the letter *i*. *Compare* monospacing.

proprietary *adj.* Of, pertaining to, or characteristic of something that is privately owned. Generally, the term refers to technology that has been developed by a particular corporation or entity, with specifications that are considered by the owner to be trade secrets. Proprietary technology may be legally used only by a person or entity purchasing an explicit license. Also, other companies are unable to duplicate the technology, both legally and because its specifications have not been divulged by the owner. *Compare* public domain.

proprietary software *n.* A program owned or copyrighted by an individual or a business and available for use only through purchase or by permission of the owner. *Compare* open source, public-domain software.

protected *n.* A keyword in a programming language (such as Java or C++) used in a method or variable declaration. It signifies that the method or variable can be accessed only by elements residing in its class, subclasses, or classes in the same package. *See also* class, declaration, method, package, variable.

protected mode *n.* An operating mode of the Intel 80286 and higher microprocessors that supports larger address spaces and more advanced features than real mode. When started in protected mode, these CPUs provide hardware support for multitasking, data security, and virtual memory. The Windows (version 3.0 and later) and OS/2 operating systems run in protected mode, as do most versions of UNIX for these microprocessors. *Compare* real mode.

protocol *n. See* communications protocol.

protocol analyzer *n.* A management tool designed to identify and diagnose computer network problems. A protocol analyzer looks at LAN (local area network) or WAN (wide area network) traffic and finds protocol errors, connection delays, and other network faults. The protocol

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of bandwidth be reserved by the server for a data stream; the server sends back a message (similar to the RSVP sent in reply to an invitation) indicating whether or not the request has been granted. *Acronym:* RSVP (Resource Reservation Setup Protocol).

resource sharing *n.* The act of making files, printers, and other network resources available for use by others.

resource type *n.* One of numerous classes of structural and procedural resources in the Macintosh operating system, such as code, fonts, windows, dialog boxes, templates, icons, patterns, strings, drivers, cursors, color tables, and menus. Resource types have characteristic identifying labels, such as CODE for blocks of program instructions, FONT for fonts, and CURS for mouse cursors. *See also* resource (definition 2), resource fork.

response time *n.* 1. The time, often an average, that elapses between the issuance of a request and the provision of the data requested (or notification of inability to provide it). 2. The time required for a memory circuit or storage device to furnish data requested by the central processing unit (CPU).

restart *vb.* *See* reboot.

restore¹ *n.* The act of restoring a file or files. *See also* backup, recovery.

restore² *vb.* To copy files from a backup storage device to their normal location, especially if the files are being copied to replace files that were accidentally lost or deleted.

restricted function *n.* A function or an operation that can be executed only under certain circumstances, especially when the central processing unit (CPU) is in privileged mode. *See also* privileged mode.

Restructured Extended Executor *n.* *See* REXX.

retrace *n.* The path followed by the electron beam in a raster-scan computer monitor as it returns either from the right to the left edge of the screen or from the bottom to the top of the screen. The retrace positions the electron beam for its next sweep across or down the screen; during this interval, the beam is briefly turned off to avoid drawing an unwanted line on the screen. Retracing occurs many times each second and uses tightly synchronized signals to ensure that the electron beam is turned off and on during the retrace. *See also* blanking, horizontal retrace, raster display, vertical retrace.

retrieve *vb.* To obtain a specific requested item or set of data by locating it and returning it to a program or to the user. Computers can retrieve information from any source of storage—disks, tapes, or memory.

retro virus *n.* A type of virus that avoids detection by attacking or disabling antivirus programs. *Also called:* anti-anti-virus.

return *vb.* 1. To transfer control of the system from a called routine or program back to the calling routine or program. Some languages support an explicit *return* or *exit* statement; others allow return only at the end (last statement) of the called routine or program. *See also* call² (definition 2). 2. To report the outcome of a called routine to the calling routine or program.

return code *n.* In programming, a code that is used to report the outcome of a procedure or to influence subsequent events when a routine or process terminates (returns) and passes control of the system to another routine. Return codes can, for example, indicate whether an operation was successful or not and can thus be used to determine what is to be done next.

return from the dead *vb.* To regain access to the Internet after having been disconnected.

Return key *n.* A key on a keyboard that is used to terminate input of a field or record or to execute the default action of a dialog box. On IBM PCs and compatibles, this key is called ENTER. The corresponding key on a typewriter causes the carriage holding the paper to return to the starting position to begin a new line; hence the name. *See also* Enter key.

return to zero *n.* A method of recording on magnetic media in which the reference condition, or "neutral state," is the absence of magnetization. *Abbreviation:* RZ. *Compare* nonreturn to zero.

reusability *n.* The ability of code or a design to be usable again in another application or system.

Reverse Address Resolution Protocol *n.* *See* RARP.

Reverse ARP *n.* *See* RARP.

reverse byte ordering *n.* *See* little endian.

reverse engineering *n.* A method of analyzing a product in which the finished item is studied to determine its makeup or component parts—for example, studying a

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completed ROM chip to determine its programming or studying a new computer system to learn about its design. For computer software, reverse engineering typically involves decompilation of a substantial portion of the object code and studying the resulting decompiled code.

reverse path forwarding *n.* A technique that makes routing decisions through a TCP/IP network by using the source address of a datagram rather than the destination address. Reverse path forwarding is used in broadcast and multicast applications because it reduces redundant transmissions to multiple recipients. *Acronym:* RPF. *See also* datagram, TCP/IP.

reverse Polish notation *n. See* postfix notation.

reverse video *n.* The reversal of light and dark in the display of selected characters on a video screen. For example, if text is normally displayed as white characters on a black background, reverse video presents text as black letters on a white background. Programmers commonly use reverse video as a means of highlighting text or special items (such as menu choices or the cursor) on the screen.

revert *vb.* To return to the last saved version of a document. Choosing this command tells the application to abandon all changes made in a document since the last time it was saved.

Revisable-Form-Text DCA *n.* A standard within Document Content Architecture (DCA) for storing documents in such a way that the formatting can be changed by the receiver. A related standard is Final-Form-Text DCA. *Acronym:* RFTDCA. *See also* DCA. *Compare* Final-Form-Text DCA.

revision mark *n.* A mark that shows where a deletion, insertion, or other editing change has been made in a document.

rewind *vb.* To wind a magnetic tape spool or cassette to its beginning.

rewritable digital video disc *n.* Technology for recording data on disks that have the same storage capacity as digital video discs (DVDs) but can be rewritten like the compact disc–rewritable (CD-RW) devices. *See also* digital video disc, PD-CD drive.

rewrite *vb.* To write again, especially in situations where information is not permanently recorded, such as RAM or a video display. *Also called:* refresh, regenerate. *See also* dynamic RAM.

REXX *n.* Acronym for Restructured Extended Executor. A structured programming language used on IBM mainframes and with OS/2 Version 2.0. REXX programs invoke application programs and operating system commands.

RF *n. See* radio frequency.

RFC *n.* Acronym for Request for Comments. A document in which a standard, a protocol, or other information pertaining to the operation of the Internet is published. The RFC is actually issued, under the control of the IAB, *after* discussion and serves as the standard. RFCs can be obtained from sources such as InterNIC.

RFD *n. See* Request for Discussion.

RFI *n.* Acronym for radio frequency interference. Noise introduced into an electronic circuit, such as a radio or television, by electromagnetic radiation produced by another circuit, such as a computer.

RF shielding *n.* A structure, generally sheet metal or metallic foil, designed to prevent the passage of radio frequency (RF) electromagnetic radiation. RF shielding is intended to keep RF radiation either inside a device or out of a device. Without proper RF shielding, devices that use or emit RF radiation can interfere with each other; for example, running an electric mixer might cause interference on a television. Computers generate RF radiation and, to meet Federal Communications Commission (FCC) standards, must be properly shielded to prevent this RF radiation from leaking out. The metal case of a PC provides most of the needed RF shielding. Devices meeting FCC type A standards are suitable for business use. Devices meeting the more stringent FCC type B standards are suitable for home use. *See also* radio frequency, RFI.

RFTDCA *n. See* Revisable-Form-Text DCA.

RGB *n.* Acronym for red-green-blue. A model for describing colors that are produced by emitting light, as on a video monitor, rather than by absorbing it, as with ink on paper. The three kinds of cone cells in the eye respond to red, green, and blue light, respectively, so percentages of these additive primary colors can be mixed to get the appearance of any desired color. Adding no color produces black; adding 100 percent of all three colors results in white. *See also* CMYK, RGB monitor. *Compare* CMY.

RGB display *n. See* RGB monitor.

RGB monitor *n.* A color monitor that receives its signals for red, green, and blue levels over separate lines. An RGB monitor generally produces sharper and cleaner images

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